Amendments to the Claims

1. (ORIGINAL) A method of operating a radio receiver having an analog portion coupled to an A/D converter, and the A/D converter coupled to a digital signal processing portion, comprising: preventing the total signal power reaching the A/D converter from exceeding a maximum allowable input amplitude.

2. (ORIGINAL) The method of Claim 1, wherein preventing the total signal power reaching the A/D converter from exceeding a maximum allowable input amplitude comprises detecting a wide-band signal power greater than a predetermined first threshold, and, responsive thereto, reducing the gain of at least one amplifier coupled to an input terminal of the A/D converter.

3. (ORIGINAL) The method of Claim 2, wherein the A/D converter is a sigma-delta A/D converter.

4. (CURRENTLY AMENDED) The method of Claim 3, further comprising detecting an in-band signal power greater than a predetermined second threshold, and, responsive thereto, reducing the gain of at least one amplifier ~~(302)~~ coupled to an input terminal of the A/D converter.

5. (CURRENTLY AMENDED) The method of Claim 1, wherein the radio receiver includes a first variable gain amplifier ~~(302)~~ and the method further comprises placing the first variable gain amplifier ~~(302)~~ in a low gain state if a wide-band signal power is greater than a first threshold.

6. (CURRENTLY AMENDED) The method of Claim 1, wherein the radio receiver includes a first variable gain amplifier ~~(302)~~, and the method further comprises: determining that a wide-band signal power is less than a first threshold; and placing the first variable gain amplifier ~~(302)~~ in a low gain state if a narrow-band signal power is greater than a second threshold.

7. (CURRENTLY AMENDED) The method of Claim 6, wherein the first variable gain amplifier ~~(302)~~ is placed in a low gain state if the narrow-band power is greater than the second threshold by at least a first hysteresis value.

8. (CURRENTLY AMENDED) The method of Claim 7, wherein the first variable gain amplifier ~~(302)~~is placed in a high gain state if the narrow-band power is less than the second threshold by at least a second hysteresis value.

9. (ORIGINAL) The method of Claim 8, wherein the first hysteresis value and the second hysteresis value are the same.

10. (CURRENTLY AMENDED) A method of preventing saturation of a sigma-delta A/D converter in a radio receiver having digital channel selectivity circuitry, comprising: obtaining a wide-band power estimation and a narrow-band power estimation; reducing an amplifier gain of a first one of a plurality of amplifiers ~~(302)~~ if the wide-band power estimation is greater than a first predetermined value; and if the wide-band power estimation is not greater than the first predetermined value, reducing the gain of at least one of the plurality of amplifiers ~~(302)~~ if the narrow-band power estimation is greater than a second predetermined value.

11. (ORIGINAL) The method of Claim 10, wherein the first predetermined value is selected so as to reduce the occurrence of ADC saturation due to out-of-band signal power.

12. (CURRENTLY AMENDED) A method of operating a radio receiver having an analog down-conversion portion including a plurality of serially coupled variable gain amplifiers ~~(302)~~, and a digital portion that performs, at least partially, a frequency selectivity function, the method comprising:

a) setting each of the plurality of variable gain amplifiers ~~(302)~~ to a high gain state;

b) obtaining a wide-band signal power estimate;

c) obtaining a narrow-band signal power estimate;

d) determining if the wide-band signal power estimate is greater than the value of a wide-band threshold;

e) setting a first one of the plurality of variable gain amplifiers ~~(302)~~ to a low gain state if the determination in (d) is affirmative;

f) if the determination in (d) is negative, determining if the narrow-band signal power estimate is greater than the value of a narrow-band threshold; and

g) setting the first one of the plurality of variable gain amplifiers ~~(302)~~ to a low gain state if the narrow-band signal power estimate is greater than the first narrow-band threshold value plus a hysteresis value.

13. (ORIGINAL) The method of Claim 12, further comprising dynamically assigning a value to the wide-band threshold.

14. (ORIGINAL) The method of Claim 13, further comprising dynamically assigning a value to the narrow-band threshold.

15. (CURRENTLY AMENDED) A radio receiver, comprising: an analog downconverter including a plurality of serially coupled variable gain amplifiers ~~(302)~~; an analog-to-digital converter connected to one of the plurality of variable gain amplifiers ~~(302)~~; and a digital baseband processor including selectivity circuitry, and automatic gain control circuitry, the automatic gain control circuitry configured to receive a wide-band signal power estimate (402c), and a narrow-band signal power estimate.

16. (CURRENTLY AMENDED) The radio receiver of Claim 15, wherein the plurality of variable gain amplifiers ~~(302)~~ are coupled to the automatic gain control circuitry.

17. (ORIGINAL) The radio receiver of Claim 16, wherein the analog-to-digital converter is a sigma-delta analog-to-digital converter.

18. (ORIGINAL) The radio receiver of Claim 15, wherein the automatic gain control circuitry is further configured to receive a wide-band power threshold value and at least one narrow-band threshold value.

19. (ORIGINAL) The radio receiver of Claim 18, wherein the automatic gain control circuitry is further configured to receive at least one hysteresis value.

20. (ORIGINAL) The radio receiver of Claim 16, wherein the selectivity circuitry comprises digital filters.